

We Claim:

1. An implantable microcontact structure for  
neuroprostheses having a number of contact elements  
that are formed on at least one two-dimensional  
carrier wherein the carrier has at least two regions  
that are movable relative to one another and that can  
assume at least two desired positions being a basic  
position and an operating position.

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2. The microcontact structure according to Claim 1  
wherein the desired positions of the microcontact  
structure can be fixed, interchanged or altered by  
external action before the implantation, during a  
surgical intervention or by external signals without  
surgical intervention.

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3. The microcontact structure according to Claim 1  
wherein the spatial extent of the microcontact  
structure is minimized during the surgical  
transportation to the implant point by compacting the  
parts that are movable relative to one another.

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4. The microcontact structure according to Claim 3  
wherein the spatial extent of the microcontact  
structure is minimized during the surgical  
transportation to the implant point by folding,  
nesting or rolling.

5. The microcontact structure according to Claim 3  
wherein compacting of the microcontact structure  
during the surgical transportation can be released  
after positioning at the implantation point and  
brought to one of the desired positions for the  
purpose of mechanical anchorage to nerve tissue.

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6. The microcontact structure according to Claim 3  
wherein the compacting of the microcontact structure  
during the surgical transportation remains locked by a  
transportation lock until said transportation lock is  
released by an external intervention.
7. The microcontact structure according to Claim 6  
wherein after releasing the transportation lock, the  
microcontact structure unfolds or opens out of the  
compact transportation shape in a controlled movement  
sequence into a position suitable for mechanical  
anchorage as a result of releasing forces at the  
junctions between the parts of the microcontact  
structure.
8. The microcontact structure according to Claim 7  
wherein the releasing forces are spring forces,  
molecular conformation changes, pneumatic forces,  
hydraulic forces and/or electromagnetic forces.
9. The microcontact structure according to Claim 1  
wherein the interchange or the alteration of a desired  
position of the microcontact structure for the purpose  
of its mechanical anchorage on the nerve tissue takes  
place in a measured manner in a time-controlled  
sequence with respect to movement and force as a  
result of external action.
10. The microcontact structure according to Claim 1  
wherein the interchange or the alteration of a desired  
position of the microcontact structure for the purpose  
of optimizing a contact or an active connection with  
the nerve tissue takes place in a measured manner in a  
time-controlled sequence with respect to movement and  
force as a result of an external action.

- 11 The microcontact structure according to Claim 9  
wherein the external action takes place by means of a  
surgical device or by means of transmitting signals to  
the microcontact structure,
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12. The microcontact structure according to Claim 10  
wherein the external action takes place by means of a  
surgical device or by means of transmitting signals to  
the microcontact structure, in particular by  
10 electromagnetic signals, light or ultrasound.
13. The microcontact structure according to Claim 11  
wherein the signals are electromagnetic signals, light  
or ultrasound.
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14. The microcontact structure according to Claim 12  
wherein the signals are electromagnetic signals, light  
or ultrasound.
- 20 15. The microcontact structure according to Claim 1  
wherein the interchange of the desired position chosen  
for the mechanical anchorage of the microcontact  
structure on the nerve tissue for the purpose of re-  
explantation takes place in a measured manner in a  
25 time-controlled sequence with respect to movement and  
force by an external action.
- 30 16. Method for using a microcontact structure wherein the  
microcontact structure according to claim 1 is used  
for retinal implantation for a retina implant or for  
intracranial implantation on nerve tissue inside the  
skull or for spinal implantation on nerve tissue of  
the spinal cord and its surroundings or for  
implantation on peripheral nerves.